



Electronic Materials

Alkyl Silicate

Packing : please contact us.

Applications

Various high-purity synthetic silica, Inorganic bonding agents, Binders, Cross-linking agents, Dehydrating agents, etc.

Characteristics

This product is high purity alkyl silicate refined through distillation after metallic silicon is reacted with alcohol. Tetramethyl orthosilicate ($\text{Si}(\text{OCH}_3)_4$), a single a-bisilane, can be easily hydrolyzed and condensed in alcohol to produce alcohol-soluble silica sol which has excellent coating and binding properties. "Methyl silicate 91" prepared by condensing tetramethyl orthosilicate to oligomerize it into the average tetramer is a high content of silica (51%) and can be safely handled.

Properties

The representative grades are shown below.

Grade	Unit	Tetramethyl Orthosilicate (100% grade)	Methyl Silicate 91 (average tetramer)	Tetra-Oxymethylsiloxane
Molecular Formula	-	$\text{Si}(\text{OCH}_3)_4$	$\text{CH}_3\text{O}[\text{Si}(\text{OCH}_3)_2\text{O}]_4\text{H}$	$\text{Si}(\text{OCH}_3)_2\text{O}_2\text{H}_4$
Molecular Weight	-	152.2	173.7	264.4
Specific Gravity (25°C)	-	1.00	1.18	0.91
Viscosity (25°C)	mPa·s	0.6	2	1.3
Appearance	-	Colorless transparent	Colorless transparent	Colorless transparent
Color (AP-H)	-	Below 10	Below 20	Below 20
Silica content	%	59	51	23.7
Purity (by GC)	%	99.0 or more	(oligomer residue)	95.0 or more
Alkaline Metals Impurities	ppb	Below 100	Below 100	Below 100
Heavy Metals Impurities	ppb	Below 100	Below 100	Below 100

Applications

Various high-purity synthetic silica : Various high-purity synthetic silica : Binders
Cross-linking agents : Dehydrating agents, etc.



Precaution in Handling

The Fine Services Art. the 4th class, the 2nd petroleum type products (water-desoluble) Tetramethyl orthosilicate vapor, when exposed to cornea, gradually causes corrosion, which in turn leads to severe pain. Wear goggles-type protective glasses and handle tetramethyl orthosilicate in a well-ventilated place.